

CTP Stitch-Tie



Re-anchors existing veneers to back-up structures

CTP Stitch-Ties reattach existing façades constructed of brick, stone, masonry, pre-cast concrete, etc., that have missing or corroded wall ties. These ties are ideal for reconnecting veneer to block, concrete, brick and wood structures without exposed hardware. They can also repair cracked brick veneers via reinforcement by horizontally pointing the CTP Stitch-Tie in the bed joint.



TYPE 304 STAINLESS STEEL





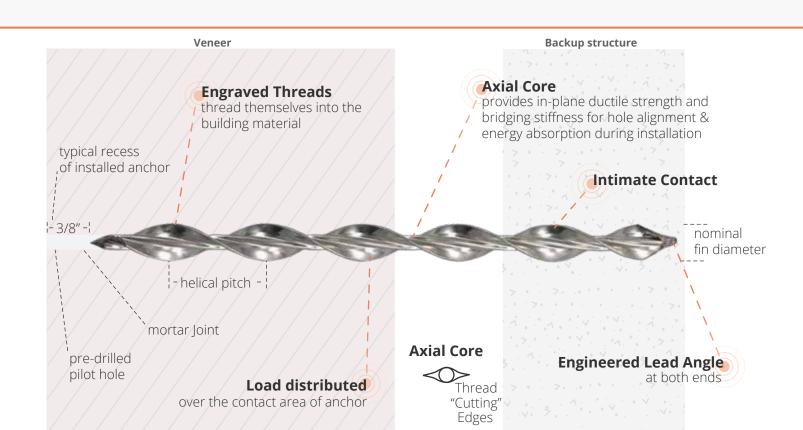


DOESN'T ADD TENSION BETWEEN WYTHES



SECURES MOST BUILDING MATERIALS





CTP STITCH-TIE

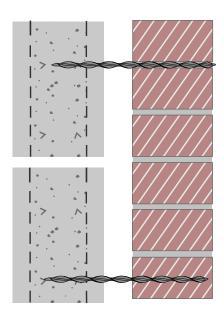
Re-anchors existing veneers to back-up structures

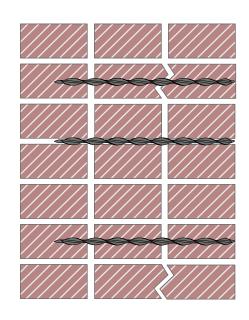
Overview

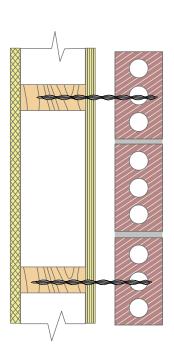
The CTP Stitch-Tie® is a Stainless Steel (Type 304) pinning solution for re-anchoring existing veneers to various sub-strates. The process eliminates the need to tear down and replace existing facades, and preserve the beauty and historical integrity of the existing building. CTP Stitch-Tie® pins are installed in pre-drilled holes by use of a dry set tool and a rotary hammer. The percussion action of the drill will create the driving forces necessary for the spiral shaped tie to thread into the building material. Once installed, the helical shape offers an in-plane flexible connector between wythes of material, while maintaining a threaded connection to resist out of plane loading for both tension and compression resistance. The CTP Stitch-Tie® does not draw walls together – therefore tension forces between wythes are not present. They are installed in relatively small holes that are easily patched and concealed. Various diameters and lengths are available for numerous applications. CTP Stitch-Tie® can also be field trimmed using cutters for optimum length requirements.

Anchor Spacing

Unless otherwise specified, CTP Stitch-Tie® anchors are typically installed at one anchor per 2 square feet of veneer area to be retrofitted. It is recommended that you refer to your local building codes and standards for spacing condition requirements of wall ties and anchors for appropriate compliance.







Lintel and Shelf Angle Support

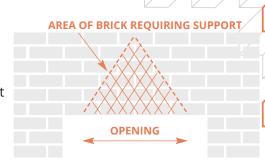
CTP Stitch-Tie® stainless steel helical wall ties can be used for providing temporary stability for brick veneer walls above openings created for the repair or replacement of lintels or shelf angles.

Data supplied is based on the resulting stiffness of 8mm CTP Stitch-Tie® at various cavities: 1" cavity = 1,264 lb/in • 2" cavity = 316 lb/in • 3" cavity = 140 lb/in.

- 1) Stabilize veneer above opening using 8mm or 10mm CTP Stitch-Ties®.
- 2) Space CTP Stitch-Tie® anchors:

	CAVITY					
	1" 2" 3"					
HORIZONTAL	12	12	12			
VERTICAL	12	6	3			

3) First row of CTP Stitch-Ties® to be installed in the lower bed joint of the remaining course above opening, supporting brick above.





CTP Stitch-Tie testing for shelf angle support

4) Openings 8 feet and larger should have a greater number of CTP Stitch-Ties® populate the center area of veneer above the middle of the opening. To accomplish this reduce the horizontal placement of two CTP Stitch-Ties® every other course by adding them to the vertical field of brick.

PERFORMANCE

MATERIAL	EFFECTIVE MINIMUM EMBED	III HMATE TENSION/COMPRESSION			
	(inches)	8mm	10mm		
Mortar Joint	3"	700	750		
Brick (solid)					
cavity	3 5/8"	700	700		
solid	3 5/8"	1200	1400		
Clay Tile hollow					
8" –2 core	8"	460	550		
12" -3 core	6 1/2"	400	560		
CMU hollow					
4" light weight	3/4"	430	450		
6" normal weight	1"	800	900		
8" light weight	1 1/4"	510	650		
8" normal weight	1 1/4"	740	750		
12" light weight	1 1/2"	520	550		
12" normal weight	1 1/2"	700	750		
CMU grouted, lightweight	2"	550	550		
Concrete	1 1/4"	1200	1300		
Wood Stud					
2 x 4	3"	520	N/R		
2 x 6	3"	520	N/R		
OSB 7/16"	7/16"	200	250		
Metal Stud 16 gauge		300	N/R		
Granite	1 1/8"	500	650		
Travertine	7/8"	500	800		
Limestone	3"	600	620		

This data reflects the results of lab, field and in-house results and provided as a guideline for the designer. Site testing is encouraged for verification of load carrying capacity. (N/R = not recommended)

PHYSICAL CHARACTERISTICS

NOMINAL DIMENSIONS*

Outside Tie Diameter	6mm	8mm	10mm	
Mass lb/ft (kg/m)	0.043 (0.062)	0.051 (0.076)	0.072 (0.12)	
Cross Sectional Area under load: in ² (mm ²)	0.012 (8)	0.016 (10)	0.02 (13)	
Yield Strength ksi (N/mm²)	108 (745)	108 (745)	93 (640)	
Ultimate Tensile Strength ksi (N/mm²)	130 (1060)	128 (880)	119 (820)	
Ultimate Shear Load ksi (pure shear, no bending) lbs (N)	265 (1180)	1169 (5200)	1686 (7500)	
Elastic -Modulus ksi (Gpa)	22,625 (156.3)	21,583.5 (148.8)	21,191 (146.1)	
Helix Angle (to longitudinal axis)	32.14°	40°	50°	
Pitch Length in.(mm)	0.59 (15)	0.79 (20)	1.0 (25.4)	
Helical Pitch Length	1.18 (30)	1.57 (40)	1.97 (50)	

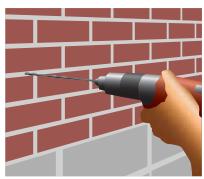
^{*}Material: ASTM A-167 TYPE 304 Stainless Steel

ULTIMATE SHAFT BUCKLING STRENGTH

UNSUPPORTED LENGTH (mm)	CAPACITY (lb) 8mm 10 mm		
1 inch (25mm)	1620	2335	
2 inch (50mm)	1425	1613	
4 inch (100mm)	1100	1185	
6 inch (150mm)	725	614	

Each construction site is unique and the appropriate use of this product is the responsibility of the engineers, architects, and other professionals who are familiar with the specific requirements of the project. The data reflects results of lab, field and in-house tests and are provided as a guideline for the designer. Site testing is encouraged for verification of load capacity.

INSTALLATION



STEP 1

Drill a 3/16" pilot hole using percussion hammer drill (3-jaw chuck type) through the mortar joint.



STEP 2

Insert the CTP Stitch-Tie into the setting tool mounted on the rotary hammer S.D.S. drill.



STEP 3

Drive the Stitch-Tie until the nose of the setting tool is hard against the veneer.



STEP 4

The setting tool automatically recesses the CTP Stitch-Tie into the face of the masonry.

Patch hole.

CHOOSING THE RIGHT STITCH-TIE

CTP STITCH-TIE LENGTH SELECTION*

Nominal Length	Minimum Drilled Hole Depth	Cavity Range CMU (solid & hollow)	e to Back-Up Concrete
6"	6-5/8"	1" - 0	1-1/2" - 0
7"	7-5/8"	2" - 0	2-1/2" - 1-1/2"
8"	8-5/8"	3" - 0	3-1/2" – 1-1/2"
10"	10-5/8"	5" - 0	5-1/2" - 3-1/2"
12"	12-5/8"	7" - 0	7-1/2" – 5-1/2"

^{*} Based on nominal 4" outer wythe

CHOOSING THE RIGHT DRILL BIT

TYPICAL CTP STITCH-TIE MASONRY BIT SIZE

	BACK-UP MATERIAL									
Façade Material	Stitch-Tie	Mortar Joint	Brick	CMU Hollow	CMU Solid	Concrete	Wood Stud	Metal Stud	Tile	Plywood & OSB
Mortar Joint										
	8mm	3/16"	1/4"	3/16"	3/16"	1/4"	3/16"	3/16"	3/16"	3/16"
	10mm	1/4"	5/16"	1/4"	5/16"	5/16"	1/4"	1/4"	1/4"	1/4"
Brick										
	8mm	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	10mm	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"
CMU										
Hollow										
	8mm	3/16"	1/4"	3/16"	3/16"	1/4"	3/16"	3/16"	3/16"	3/16"
	10mm	1/4"	5/16"	1/4"	5/16"	5/16"	1/4"	1/4"	1/4"	1/4"
Solid										
	8mm	1/4"	7/32"	3/16"	3/16"	7/32"	3/16"	3/16"	3/16"	3/16"
	10mm	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"
Precast Concrete										
	8mm	1/4"	1/4"	1/4"	1/4"	7/32"	1/4"	1/4"	1/4"	1/4"
	10mm	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"
Stone										
	8mm	1/4"	7/32"	1/4"	1/4"	7/32"	1/4"	1/4"	1/4"	1/4"
	10mm	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"

QUALITY ASSURANCE

ON-SITE TESTS

Site testing is encouraged for verification of load capacity. CTP Stitch-Ties® can be load tested to verify the strength of the connection. Our Construction Tie Products field test appliance is custom designed for this purpose. A test key, sized for the appropriate diameter of the CTP Stitch-Tie®, is quickly attached to the specimen and a test load applied. The easily read dial indicates the applied load.



Mortar Joint Performance Test



Pull-Out Capacity Brick



Pull-Out Capacity

You. Us. The project.

We strive to provide the best construction products on the market, but we also know this business is about people. That's why we dedicate our human resources and services to make your job easier. Our nationwide network of sales representatives is here to do whatever we can to help solve your job-site problems.

KELLY Field Support
Our on-site service includes troubleshooting, training and installation support.



STEVE Engineering Support
Engineering details and personalized solutions for your specific needs.



COLLEEN Customer Care We're real live people who answer the phones! Really. We're here M-F, 8a-5p, CST.



BRIANField Support
We come to you to support your projects when and where you need us.



Re-anchor architectural elements with CTP Stitch-Ties



Re-anchoring to metal stud with CTP Stitch-Ties

Stitch-Ties I a second second

New life for your masonry

We help architects, engineers, contractors & owners return existing buildings to serviceability and ensure the stability of new buildings. Let us help save the wall of your next new construction or retrofit project.



Low-rise façade restoration with CTP Stitch-Ties



Re-anchor brick and limestone with CTP Stitch-Ties



Historic limetone repair with CTP Stitch-Ties



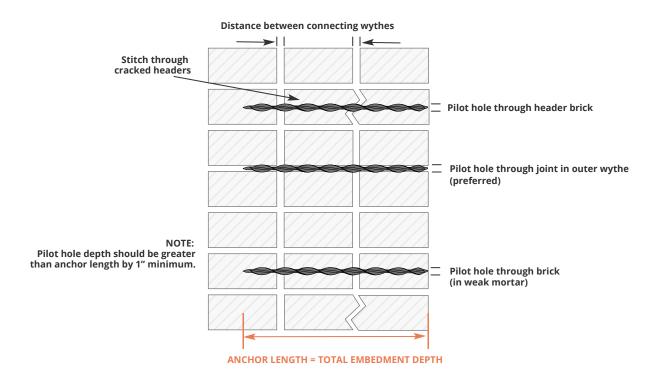
Re-anchoring terra cotta with CTP Stitch-Ties

SELECTING THE RIGHT LENGTH OF STITCH TIE

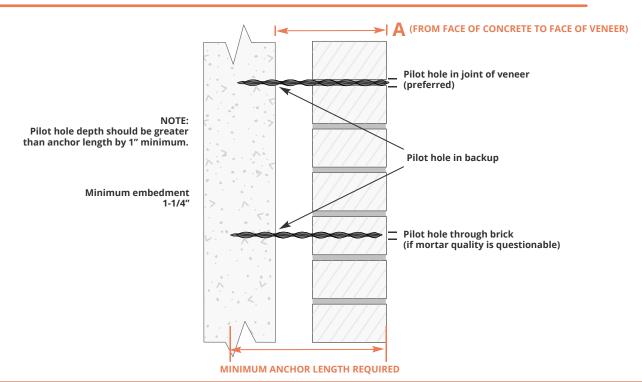
and installing it properly

Reconnecting Multi Wythes Brick

Anchor Length = Total Embedment Depth

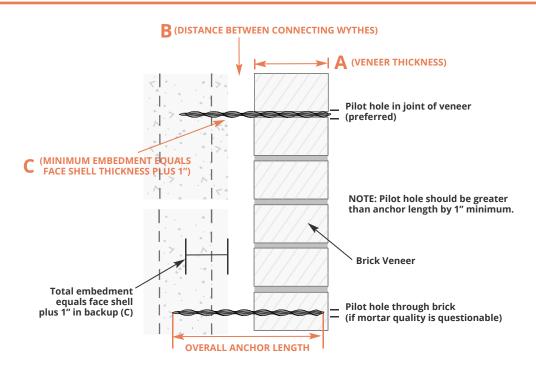


Brick Veneer to Concrete Backup Minimum Anchor Length Required = A + 1-1/4"



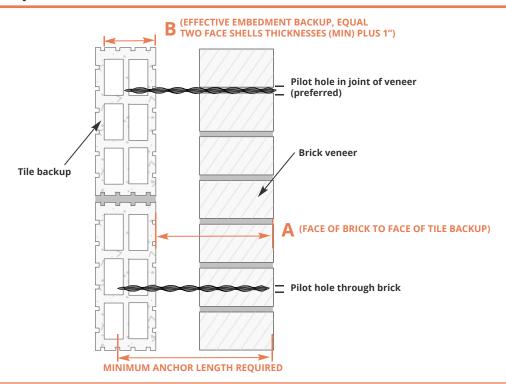
Brick Veneer to Hollow or Solid CMU Backup

Overall Anchor Length = A + B + C



Brick Veneer to Clay Tile Backup

Minimum Anchor Length Required = A + B + 1"

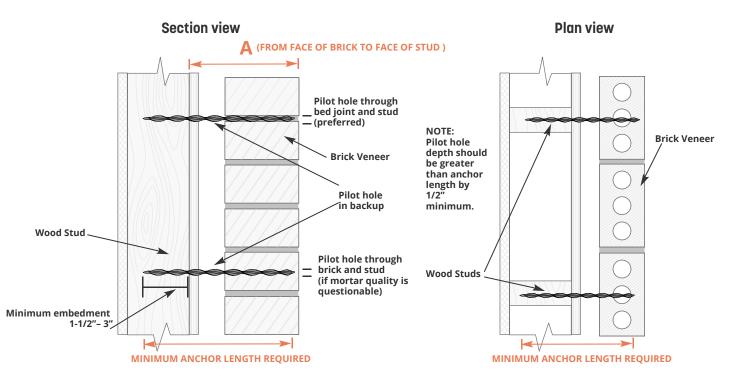


SELECTING THE RIGHT LENGTH OF STITCH TIE

and installing it properly

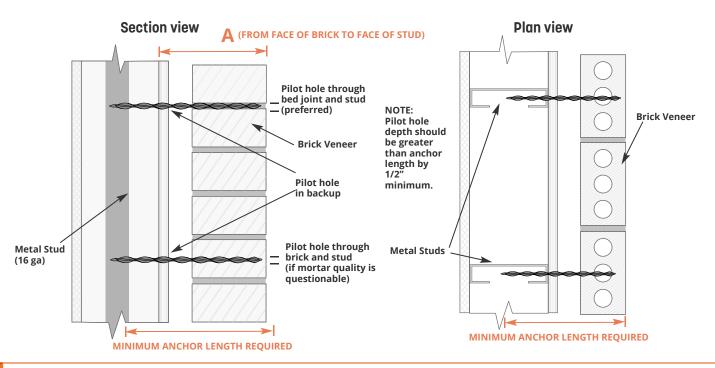
Brick Veneer to Wood

Minimum Anchor Length Required = A + 1-1/2"



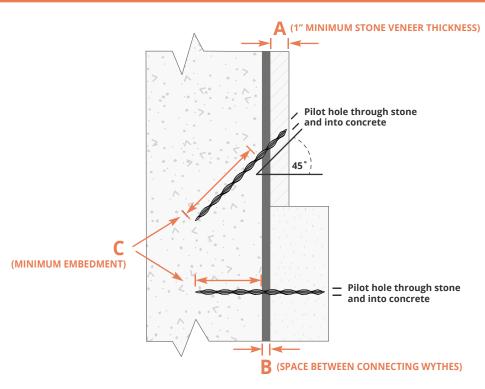
Brick Veneer to Metal Stud

Minimum Anchor Length Required = A + 1"



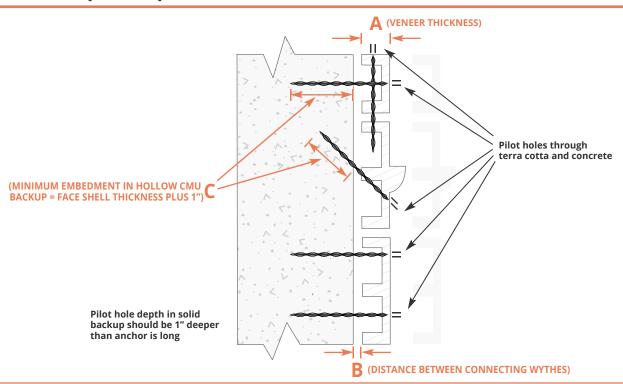
Travertine or Limestone Panels to Concrete Backup

Anchor Length Required = A + B + C



Terra Cotta to Concrete or Masonry Backup

Overall Anchor Length = A + B + C





CTP Facade Tie Bracket

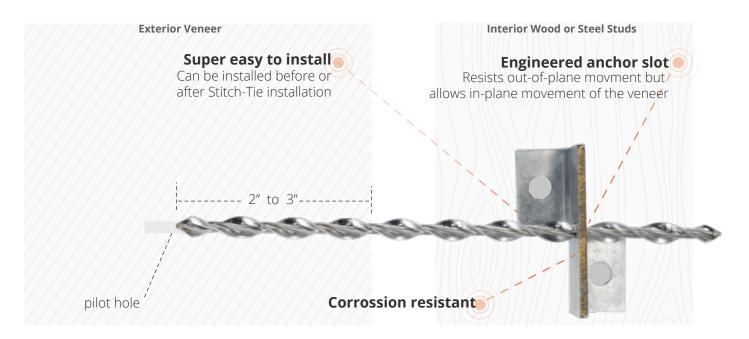
Anchors existing veneers to interior wood or steel studs

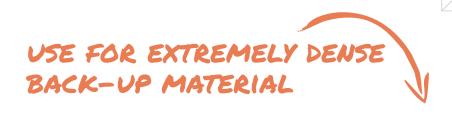
The CTP Façade Tie Bracket enables exterior masonry facades to be re-attached from the interior of structures. This eliminates any exterior hole drilling, mortar patch matching, or costly scaffolding expenses. This makes the CTP Façade Tie Bracket ideal for fortifying masonry veneer during remodeling, build-outs or basic building renovations.



Use where there is a need to re-connect or add ties to an existing façade from an interior wood or steel stud. The CTP Façade-Tie Bracket system is installed from the interior of the structure. A building or home interior renovation project sometimes requires an exterior wall to be retrofitted from the inside. This can be due to termite, water, fire, mold damage, seismic fortification, or, just part of the building renovation condition. When the wall has an existing masonry veneer, which is to remain, and new studs are part of the retrofit scheme, the two materials need to be anchored together by using the CTP Stitch-Tie® fastener to bridge the distance between the brick wall and the stud, the installed fastener anchors to the brick wall. The CTP Façade-Tie Bracket is then connected with the CTP Stitch-Tie® by engaging the fastener in the slot. The CTP Façade-Tie Bracket and CTP Stitch-Tie® fastener assembly is then attached to the stud. This anchor system restrains the wall from moving outward or inward.









CTP Stitch Tie Asymmetric Dual-diameter helical anchor for harder back-up material

The CTP Stitch Tie Asymmetric features one end with a smaller diameter that makes it ideal for embedding into harder back-up materials. The 8-mm or 10-mm helical outer diameter on the other end is designed to engage with softer masonry veneer materials. The result provides an optimum tension capacity for the connection.

CTP Stitch-Tie Asymmetric Wall Tie reduces the outside diameter of a regular CTP Stitch-Tie from 8mm to 6.5mm (5/16" to 0.255") and 10mm to 8.5mm (0.39" to 0.334").

Applications

Concrete back-up density and hardness can restrict 8mm or 10mm diameter helical ties entry. A larger pilot hole would usually be required. By concurrently enlarging the veneer pilot hole, a capacity reduction in the veneer portion of the anchorage can occur. When connecting a soft external substrate to harder internal walls use our dual diameter stainless steel helical wall tie. The balance of the ties length retains the 8mm or 10mm helical outer diameter for engaging with the softer masonry veneer material. The result provides an optimum tension capacity for the connection.

Characteristics

Size	8/6.5mm diameter (5/16"/0.255")
	10/8.5mm diameter (.393"/0.334")
Pitch	40+/-1 mm (1.574+/-0.039") for 8mm diameter
	50+/-1 mm (1.968+/- 0.039") for 10mm diameter
Material	Austenitic Stainless Steel AISI Type 304
	Austenitic Stainless Steel AISI Type 316 (available upon request)
Tensile Strength	6.5mm = 7200N (1618 lb)
	8.5mm = 8800N (1978 lb)
Yield Strength	6.5mm = 745N/mm2 (108,053psi)
	8.5mm = 640N/mm2 (92,824psi)
E-Modulus	6.5mm = 156.269Gpa (22,665Kin2)
	8.5mm = 148.813Gpa (21,584Kin2)



STABILIZE STAIR-STEP CRACKING



CTP Stitch Tie Bar Kit

Provides reinforcement in mortar joints and dutchmen

The stainless steel CTP Stitch Tie Bar repairs cracked masonry and provide reinforcement to create structural beams from existing brick veneers. The CTP Stitch Tie Bar comes with SureGrout, a high-performance, non-oxidizing, non-shrink, thixotropic, cement-based grout that's suitable for injecting by hand.



SUREGROUT

SureGrout (8700psi, 60 Mpa) for standard masonry. SureGrout S (3900psi, 27.5 Mpa) available for soft masonry.



STITCH TIF RAD

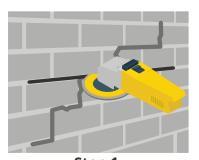
4.5mm x 33ft coil, 6mm x 40" (1 meter) long or 10ft coil



GUN AND NOZZLE



MIXING PADDLE



Step 1

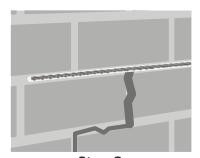
Grind away existing mortar, 20" minimum on each side of crack, 1-1/2"-2" deep.

Clean with water.



Step 2

Apply a bead of SureGrout at the base of the ground joint.



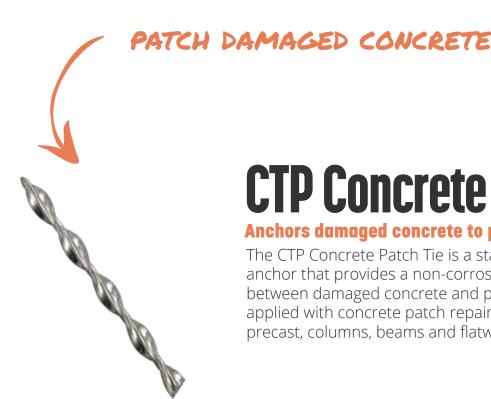
Step 3

Insert Stitch-Tie Bar into bead of SureGrout.



Step 4

Apply second/third bead of SureGrout over Stitch-Tie Bar, and compact with appropriate trowel.



CTP Concrete Patch Tie

Anchors damaged concrete to patching material

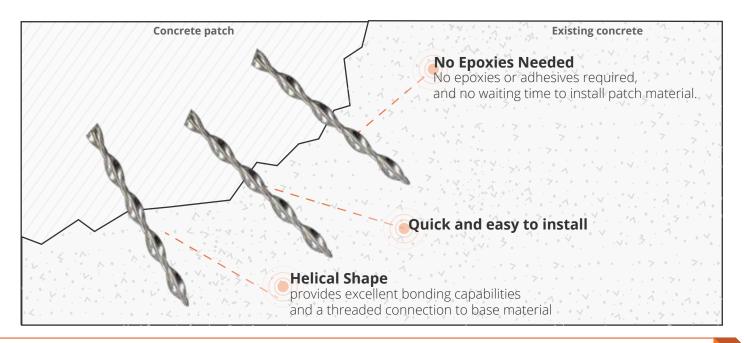
The CTP Concrete Patch Tie is a stainless steel helical-shaped anchor that provides a non-corrosive mechanical connection between damaged concrete and patching material. It's typically applied with concrete patch repairs to balconies, curbs, coping, precast, columns, beams and flatwork.

Applications

The CTP Concrete Patch-Tie is a stainless steel helical shaped CTP Stitch-Tie® anchor and is used to provide a non-corrosive mechanical connection between damage concrete and patching material. The anchoring system is typically applied with concrete patch repairs to balconies, curbs, coping, precast, columns, beams flat work, etc. as a means to key the patch material mechanically to the parent structure. The pin can be used to attach patches to limestone.

Installation

- 1.) Clean area to be patched and remove any loose material. Treat exposed rebar as required.
- 2.) Drill a 1/4" hole in the concrete 1-3/4" 2" deep. Ties should be spaced one per 6" in all directions, and a 2" edge distance is required. A minimum of 2 CTP Concrete Patch-Ties per patch is required.
- 3.) Using the CTP Concrete Patch-Tie setting tool, install the anchor in the predrilled hole with the aid of a rotary hammer (SDS preferred). Hammer into place until the tool bottoms out.
- 4.) The exposed tie portion should not extend above the patch height. If so, trim or bend anchor to attain the proper profile.
- 5.) Apply patching material.



ORDER GUIDE

Product	Catalog number	qty / box	lbs / box
8mm Diameter Stitch-Tie - 304 Stainless Steel			
Stitch-Tie Helical Anchor 8mm x 3" Patch Tie (75mm) 304SS	63010-M8N75STS4	25	2.00
Stitch-Tie Helical Anchor 8mm x 4" (100mm) 304SS	63010-M8N100STS4	100	3.00
Stitch-Tie Helical Anchor 8mm x 6" (150mm) 304SS	63010-M8N150STS4	100	3.00
Stitch-Tie Helical Anchor 8mm x 7" (175mm) 304SS	63010-M8N175STS4	100	3.20
Stitch-Tie Helical Anchor 8mm x 8" (200mm) 304SS	63010-M8N200STS4	100	3.70
Stitch-Tie Helical Anchor 8mm x 10" (250mm) 304SS	63010-M8N250STS4	100	4.50
Stitch-Tie Helical Anchor 8mm x 12" (300mm) 304SS	63010-M8N300STS4	50	2.75
Stitch-Tie Helical Anchor 8mm x 14" (350mm) 304SS	63010-M8N350STS4	50	3.50
Stitch-Tie Helical Anchor 8mm x 16" (400mm) 304SS	63010-M8N400STS4	50	3.80
Stitch-Tie Helical Anchor 8mm x 18" (450mm) 304SS	63010-M8N450STS4	50	4.30
Stitch-Tie Helical Anchor 8mm x 24" (600mm) 304SS	63010-M8N600STS4	25	3.00
Stitch-Tie Helical Anchor 8mm x 30" (750mm) 304SS	63010-M8N750STS4	25	4.00
10mm Diameter Stitch-Tie - 304 Stainless Steel			
Stitch-Tie Helical Anchor 10mm x 6" (150mm) 304SS	63010-M10N150STS4	50	2.00
Stitch-Tie Helical Anchor 10mm x 7" (175mm) 304SS	63010-M10N175STS4	50	2.10
Stitch-Tie Helical Anchor 10mm x 8" (200mm) 304SS	63010-M10N200STS4	50	2.20
Stitch-Tie Helical Anchor 10mm x 10" (250mm) 304SS	63010-M10N250STS4	50	2.80
Stitch-Tie Helical Anchor 10mm x 12" (300mm) 304SS	63010-M10N300STS4	50	3.40
Stitch-Tie Helical Anchor 10mm x 14" (350mm) 304SS	63010-M10N350STS4	50	4.00
Stitch-Tie Helical Anchor 10mm x 16" (400mm) 304SS	63010-M10N400STS4	50	4.60
Stitch-Tie Helical Anchor 10mm x 18" (450mm) 304SS	63010-M10N450STS4	50	5.20
Stitch-Tie Helical Anchor 10mm x 24" (600mm) 304SS	63010-M10N600STS4	25	3.50
Stitch-Tie Helical Anchor 10mm x 30" (750mm) 304SS	63010-M10N750STS4	25	4.00
8mm Diameter Asymmetrical Stitch-Tie - 304 Stainless Steel			
Stitch-Tie Helical Asymmetrical Anchor 8mm x 6" (150mm) 304SS	63030-M8N150STA4	100	3.00
Stitch-Tie Helical Asymmetrical Anchor 8mm x 7" (175mm) 304SS	63030-M8N175STA4	100	3.20
Stitch-Tie Helical Asymmetrical Anchor 8mm x 8" (200mm) 304SS	63030-M8N200STA4	100	3.70
Stitch-Tie Helical Asymmetrical Anchor 8mm x 9" (225mm) 304SS	63030-M8N225STA4	100	4.20
Stitch-Tie Helical Asymmetrical Anchor 8mm x 10" (250mm) 304SS	63030-M8N250STA4	100	4.50
Stitch-Tie Helical Asymmetrical Anchor 8mm x 12" (300mm) 304SS	63030-M8N300STA4	100	5.20

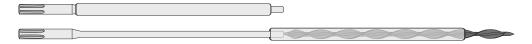
¹⁾ All anchors are Type 304 Stainless, Type 316 SS available upon request. 2) Other lengths available upon request

F	Product	Catalog number	qty / box	lbs / box
1	0mm Diameter Asymmetrical Stitch-Tie - 304 Stainless Steel			
	Stitch-Tie Helical Asymmetrical Anchor 10mm x 6" (150mm) 304SS	63030-M10N150STA4	50	2.00
	Stitch-Tie Helical Asymmetrical Anchor 10mm x 7" (175mm) 304SS	63030-M10N175STA4	50	2.10
	Stitch-Tie Helical Asymmetrical Anchor 10mm x 8" (200mm) 304SS	63030-M10N200STA4	50	2.20
	Stitch-Tie Helical Asymmetrical Anchor 10mm x 9" (225mm) 304SS	63030-M10N225STA4	50	2.40
	Stitch-Tie Helical Asymmetrical Anchor 10mm x 10" (250mm) 304SS	63030-M10N250STA4	50	2.80
	Stitch-Tie Helical Asymmetrical Anchor 10mm x 12" (300mm) 304SS	63030-M10N300STA4	50	3.40
S	Stitch-Tie Bar Crack Reinforcement/Crack Repair Products			
	Stitch-Tie Bar 6mm x 40" (1000mm) 304SS	63010-M6N1000STS4	25	4.00
	Stitch-Tie Bar 6mm x 10' (3000mm) 304SS	63060-M10NM6STC4	1	.40
	Stitch-Tie Bar 6mm x 33' (10,000mm) 304SS	63010-M6N39600STS4	1	1.50
	Stitch-Tie Bar 4.5mm x 33' (10,000mm) 304SS	63060-M10NM4.5STC4	1	2.00
	Stitch-Tie Seismic Reinforcement Connector	62900-RC820	50	4.00
	Sure Grout 3 Liter Tub (3 tubs used for 25 bars)	62900-SGS30	1	15.00
	Manual Grout Applicator Gun - 36 cu inches	62900-PGGUNKIT	1	8.00
	SS Grout Applicator Nozzle	62900-95CSN	1	1.00
	1) All anchors are Type 304 Stainless, Type 316 SS available upon reques	t. 2) Other lengths availa	ıble upon req	uest

ACCESSORIES

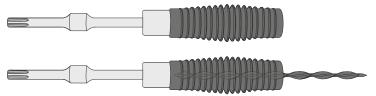
ECONOMY SETTING TOOL

installs stitch ties, available in 8mm or 10mm



SPRING LOADED SETTING TOOL

heavy-duty tool to install stitch ties, in 8mm or 10mm



Warranty

Seller makes no warranty of any kind, expressed or implied, except that the goods sold under this agreement shall be of the standard quality of the seller, and buyer assumes all risk and liability resulting from the use of the goods, whether used singly or in combination with other goods. Seller neither assumes nor authorizes any person to assume for seller any other liability in conjunction with the sale or use of the goods sold, and there is no oral agreement or warranty collateral to or affecting this transaction.

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